NATURAL RESOURCES CONSERVATION SERVICE (NRCS)
MAPPING CONVENTIONS FOR DETERMINING WETLANDS AND POTENTIAL WETLANDS IN MINNESOTA

INTRODUCTION

The intent of this document is to outline the procedure that the Natural Resources Conservation Service (NRCS) will use to identify wetlands when adequate information currently exists for a site(s) and will use to identify potential wetlands when additional field information is necessary for portions and/or all of the project area. These mapping conventions are separate from, but must be used in conjunction with, the National Food Security Act Manual (NFSAM) and the approved onsite procedures document(s). The approved onsite procedures document(s) are based on the most current versions of the NFSAM, the 1987 United States Army Corps of Engineers (USACE) Wetland Delineation Manual, Technical Report Y-87-1 (‘87 Manual), and/or USACE Regional Supplements.

These mapping conventions take into account the regional, state, and local wetland characteristics unique to Minnesota. This document adheres to regulations and policies in effect as of the date of this document.

Persons identifying potential wetlands and conducting wetland determinations must have the appropriate “Wetland Approval Authority(s)” delegated and documented in accordance with current NRCS policy (Section III of the MN Field Office Technical Guide). The NRCS decision-maker is reminded that size of an area is not part of the wetland criteria therefore, areas large enough to display evidence of potential wetlands on inventory tools and/or that are noted in the field will be considered.

There are three overarching and distinct decisions required in the USDA wetland compliance determination process. Wetland decision-makers must:

1. Evaluate and decide on the current presence or absence of a wetland or potential wetland.

2. For all sites determined to presently meet wetland criteria apply all appropriate USDA wetland compliance exemptions based on the eligibility of the site to exemptions provided in the 1985 Food Security Act, as amended, and the Code of Federal Regulations (CFR). Exemptions can be full (i.e., Non-Wetland, Prior Converted Cropland, Artificial Wetland) or with conditions (i.e., Farmed Wetland, Farmed Wetland Pasture). Refer to the CFR and the NFSAM for specific definitions.

3. Determine the size and place appropriate NFSAM wetland labels on all sites.

PROCEDURE

The following section outlines the steps the MN NRCS will use to determine if adequate information currently exists for a sites and when on-site inspection may be necessary for a sites. Identified sites are called “potential wetlands” in this procedure until the decision maker determines if an on-site inspection is not necessary or until the site is determined to qualify for an exemption.

Step 1: Gather Preplanning and Remote Sensing Data
Step 2: Complete Off-Site Procedures
Step 3: Selection of the Determination Method
- Off-sight only
- On-sight only
- Both off-sight and on-sight

Step 4: On-Sight Evaluation Procedures
- Determine if Normal Circumstances Exists
- Determine the Predominance of Hydric Soils
- Determination of the Prevalence of Hydrophytic Vegetation
- Determination of Wetland Hydrology

Step 5: Making a Wetland Determination

- Develop Base map
- Apply Exemptions to all Wetland Sites
- Place NFSA Manual Labels on All Sites

Step 6: Wetland Delineation

Step 1. Gather Preplanning and Remote Sensing Data

To complete this step, the reviewer may choose to begin with one or more resources noted below to maximize the information on the location of potential wetlands. The NRCS policy, manual, and regulations do not limit the resources used.

ACTION:

A. Review the soil survey and the State Technical Guide county hydric soils list to identify areas that may be potential wetlands. Identify listed hydric soil map units, map units with hydric soils as part of their name, or soils with hydric inclusions, and map units with conventional wetland symbols as evidence of potential wetlands.

B. Review the United States Geological Survey (USGS) NED topographic maps or LIDAR data if available for your county. This data provides contour information that may assist delineators in identifying potential wetland geomorphic position.

C. Review the NRCS wetland inventory maps and official determinations, if available, to identify previously mapped wetlands as evidence of a potential wetland.

D. Review the National Wetland Inventory (NWI) maps to identify previously mapped wetlands as evidence of potential wetlands.

E. Review all other inventory tools (where available) for evidence of potential wetlands.

Step 2. Conduct Aerial Imagery Review

ACTION:

A. Based on knowledge of local conditions, review the appropriate Farm Service Agency (FSA) aerial photography, to identify evidence of potential wetlands. The decision maker will develop a base map for all fields and\or areas in questions and identify them as either wetland or non-wetland. Usually the slide selected to identify potential wetlands is representative of a wetter than normal condition.

B. Determine the precipitation data set which is best representative of the location for the wetland determination. Each area engineer has compiled precipitation data on a township basis and determined if the aerial photography was obtained during a period representative of "dry," "normal," or "wet" conditions.

C. For each of the potential wetland areas evaluate all available aerial photography which has been determined by the area engineer to represent "normal" year precipitation. If 5 "normal" years can't be obtained for evaluation supplement an equal amount of both "dry" and "wet" years for each missing normal year. Note: the aerial photography referenced for use in Step #3 of these reviews are the annual images taken for FSA crop compliance. Use of other aerial photography for the purpose of off-site procedures must be approval by the State Resource Conservationist. Any of the following signatures present on one or more slides would be considered as evidence of potential wetlands:

    1. Hydrophytic vegetation
    2. Surface water
    3. Saturated conditions

4. Flooded or drowned-out crops
5. Stressed crops due to wetness
6. Differences in vegetation due to different planting dates
7. Inclusion of wet areas as set-aside or idled
8. Circular or irregular areas of unharvested crops within a harvested field
9. Isolated areas that are not farmed with the rest of the field
10. Areas of greener vegetation (especially during dry years)

Table A. Notations to be used in review of aerial imagery

Signatures considered as evidence of wetness	
Notation	Description
CT	Color Tone is an obvious difference in the condition of the site compared to crop condition in the surrounding field(s); this may include color, size, different planting dates. Color tone may also indicate drown out where a site may have been tilled and/or planted, but the pattern of the crop indicates that a portion drowned out.
WNC	Wet Not Cropped indicates the site appears to have natural vegetation cover rather than annual crops. No obvious tillage pattern lines are seen in the site. The area may be squared up.
SW	Standing water indicates that the image shows standing water at the time of the photo. This difference is important for use as a hydrology field indicator in the Corps' regional supplements.
Signatures considered as evidence of dry or normal	
C	The site is dry enough to be cropped (tilled and planted). The crop seems to have the same health and vigor as in surrounding fields.
DNC	Dry Not cropped. The site appears to have natural vegetation rather than annual crops. No tillage pattern lines are seen in the site.

- Note that years when the image showed crop stress are less conclusive than those with drown-outs and standing water. Crop stress may occur in annual crops if the water persists for a relatively short period of time. The wetland hydrology criterion requires that the water be present for sufficient duration and frequency for hydrophytic vegetation to dominate.
- More than one reason causes an area to be non-cropped. Often it is not possible to tell whether a non-cropped site is wet or dry without additional information because the vegetation masks any presence of water.

D. Summary. When the off-site procedures are completed in response to a 569 all years of photography must be reviewed.

Step 3. Determine if a field visit is required.

ACTION: Analyze the preliminary status along with all other available information.

- If the site has 30% or less normal year wetland signatures, and the site has not been manipulated, and the preponderance of evidence supports that the site does not meet wetland criteria; the site is determined non-wetland (NW). No field visit is required.

- If the site has 30% or less normal year wetland signatures, and the site has been manipulated prior to December 23, 1985, and the site has been cropped prior to December 23, 1985, and the preponderance of evidence supports that the site does not meet wetland criteria; the site is determined prior converted cropland (PC or PC/NW). No field visit is required.

- If the site has 60% or more normal year wetland signatures, is not manipulated and if the site has mapped hydric soil and/or mapped hydric soil inclusions, and the preponderance of evidence supports that the site meets wetland criteria; the site is determined wetland (W). No field visit is required.

- If the site has 30% or more normal year wetland signatures, and the site has been manipulated prior to December 23, 1985, then the evidence supports that the site meets farmed wetland hydrology criteria FOR POTHOLES. Sites with 31% to 59% normal year signatures will require field verification.

- FOR POTHOLE SITES: If the site has 60% or more normal year wetland signatures, and the site has been manipulated prior to December 23, 1985, and if the site has mapped hydric soil and/or mapped hydric soil inclusions, and the preponderance of evidence supports that the site meets farmed wetland criteria FOR POTHOLES; the site is determined farmed wetland (FW or FWP). No field visit is required.

FOR NON-POTHOLE SITES: IN MINNESOTA THESE SITES WILL GENERALLY NOT MEET FARM WETLAND HYDROLOGY CRITERIA UNLESS LOCATED NEAR A MAJOR RIVER.

NOTE #1 – Using the procedures above an on-site field visit may **not be** required; however, a site field visit is always an **option** to the wetland delineator. Field visits **must** be completed when: the imagery review is inconclusive; responding to a 569; or when a determination is appealed.

NOTE #2 - For all sites where manipulation is determined to have occurred, identify and document, to the best of your ability, the date (year) in which the manipulation occurred. Review 1986 and prior year aerial photography, historic black and white photos, producer supplied drainage improvement data, and existing case file scope and effect documentation to determine if any manipulation occurred prior to and or after December 23, 1985.

If no field visit is required proceed to step 5.

Step 4. On-Site Evaluation of Soils/Vegetation/Hydrology

ACTION

Refer to the approved onsite procedures, documentation forms and requirements in the appropriate Regional Supplement to the USACE Wetland Delineation Manual.

Determine the Predominance of Hydric Soils

Refer to the approved waiver concerning the use of existing soil mapping to document the presence of hydric soil for on-site site procedures.

- If the site meets the hydric soils requirements, then document the findings (per form instructions).
- If the site fails to meet the hydric soil requirements, the area is not a wetland. No further investigation is required. Document the findings (per form instructions).

Determine the Prevalence of Hydrophytic Vegetation

- If the site meets the hydrophytic vegetation requirement, then the vegetation is hydrophytic. Document the findings (per form instructions)
- If the site fails all of the hydrophytic vegetation tests, then hydrophytic vegetation is absent. Document the findings (per form instructions).

Determination of Wetland Hydrology

- If the site meets the wetland hydrology requirements, then document the findings (per form instructions).
- If the site fails the wetland hydrology requirements, then wetland hydrology is absent. Document the findings (per form instructions).

Document the findings and proceed to Step 5.

Step 5. Make a Wetland Determination and Label all Sites

- For all sites determined to presently meet wetland criteria apply all appropriate USDA wetland compliance exemptions based on the eligibility of the site to exemptions provided in the 1985 Food Security Act, as amended, and the Code of Federal Regulations (CFR). Exemptions can be full (i.e., Non-Wetland, Prior Converted Cropland, Artificial Wetland) or with conditions (i.e., Farmed Wetland, Farmed Wetland Pasture). Refer to the CFR and the NFSAM for specific definitions.

- Wetland decisions are based on what the site conditions would be under Normal Circumstances.

- If, under Normal Circumstances, the site failed the criterion of any of the three parameters – soils, vegetation, or hydrology – label the site PC/NW, NW, or PC as appropriate. Note for PC label the following conditions apply;
  - Cropped at least once prior to December 23, 1985.
  - Manipulated (any drainage action or removal of woody vegetation) prior to December 23, 1985.
  - Did not support woody vegetation on December 23, 1985.
  - Did not support wetland hydrologic criteria on December 23, 1985, i.e. the manipulation had sufficiently resulted in wetland conversion.

- If, under Normal Circumstances, the site met all three criteria, conduct any further analysis needed to determine which NFSAM label is appropriate. NFSAM labels identify exemptions or restrictions that apply to the site and reflect its status as of December 23, 1985. Post December 23, 1985, alterations via manipulation or abandonment will be reflected in the NFSAM label (see Appendix 1, Step F). Refer to 514.10 through 514.60 in the NFSAM for guidance.

- Ensure documentation is adequate for the scope and effect for all manipulated sites. Complete the data sheets and confirm that all are providing evidence toward the same final conclusion.

- If the site is a potential converted wetland, consider whether any exemptions apply prior to labeling the site CW or CW+year.

Step 6. Wetland Delineation

Refer to the procedures in the NFSAM and approved onsite procedures documents to complete the wetland map and appropriate form(s). (NRCS-CPA-026E)